

CLAIMS

1. A method of aiding in the diagnosis of the neoplastic condition of a lung cell, comprising detecting the presence of an overexpressed proto-oncogene selected from the group consisting of b-myb, p67, PGP9.5 and 8-oxo-dGTPase, in a lung cell sample, wherein the overexpression is indicative of the neoplastic condition of the lung cell.
2. The method of claim 1, wherein the proto-oncogene is b-myb.
3. The method of claim 1, wherein the proto-oncogene is PGP9.5.
4. The method of claim 1, wherein the proto-oncogene is 8-oxo-dGTPase.
5. The method of claim 1, wherein the proto-oncogene is p67.
6. The method of claim 1, wherein the presence of the overexpressed proto-oncogene is determined by detecting the quantity of mRNA transcribed from the proto-oncogene.
7. The method of claim 2, wherein the detecting is determined by probing the sample with a probe or primer comprising the sequence TGCTGCCCTG (SEQ. ID No.1) or its complement.
8. The method of claim 3, wherein the detecting is determined by probing the sample with a probe or primer comprising the sequence is CAGTCTAAAA (SEQ. ID No.2) or its complement.

9. The method of claim 4, wherein the detecting is determined by probing the sample with a probe or primer comprising the sequence TGGCCCGACG (SEQ. ID No.3) or its complement.

5 10. The method of claim 5, wherein the detecting is determined by probing the sample with a probe or primer comprising the sequence TAATACTTTT (SEQ ID NO. 4) or its complement.

10 11. The method of claim 6, wherein the presence of the overexpressed proto-oncogene is determined by detecting the quantity of cDNA produced from the reverse transcription of the mRNA.

15 12. The method of claim 1, wherein the presenece of the overexpressed proto-oncogene is determined by detecting the quantity of the polypeptide or protein encoded by the proto-oncogene.

13. The method of claim 12, wherein the lung cancer is non-small cell lung cancer.

20 14. A screen for a potential therapeutic agent for the reversal of the neoplastic condition of a lung cell wherein the cell is characterized by overexpression of a proto-oncogene selected from the group consisting of b-myb, p67, PGP9.5 and 8-oxo-dGTPase comprising contacting a sample with an effective amount of a potential agent and assaying for reversal of the neoplastic condition.

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15. The screen of claim 14, wherein the proto-oncogene is b-myb.

16. The method of claim 14, wherein the proto-oncogene is PGP9.5.

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17. The method of claim 14, wherein the proto-oncogene is 8-oxo-dGTPase.

18. The method of claim 14, wherein the proto-oncogene is p67.

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19. A method for reversing the neoplastic condition of a lung cell, wherein the cell is characterized by overexpression of a proto-oncogene comprising contacting the cell with an agent identified by the method of claim 14.

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20. The method of claim 19, wherein the proto-oncogene is b-myb.

21. The method of claim 19, wherein the proto-oncogene is PGP9.5.

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22. The method of claim 19, wherein the proto-oncogene is 8-oxo-dGTPase.

23. The method of claim 19, wherein the proto-oncogene is p67.

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24. The method of claims 19, wherein the agent is anti-sense RNA that specifically inhibits the overexpression of the proto-oncogene.

25. A probe or primer to detect the presence of b-myb, comprising sequence TGCTGCCCTG (SEQ. ID No.1) or its complement.

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26. A probe or primer to detect the presence of PGP9.5, comprising sequence CAGTCTAAAA (SEQ. ID No.2) or its complement.

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27. A probe or primer to detect the presence of 8-oxo-dGTPase, comprising sequence TGGCCCGACG (SEQ. ID No.3) or its complement.

28. A probe or primer to detect the presence of p67, comprising sequence TAATACTTTT (SEQ ID NO. 4) or its complement.

5 29. A solid phase support comprising the probes or primers of claims 25 through 28, or their complements.

30. A kit for use in a diagnostic method according to claim 1 comprising in suitable packaging:
10 one or more polynucleotides selected from the group consisting of b-myb, p67, PGP9.5 and 8-oxo-dGTPase immobilized on a solid support and a reagent suitable for hybridizing a sample suspected of containing the lung cancer cell.